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I hereby certify that this correspondence is being sent by first class mail to: Mail Stop Amendment, Commissioner for Patents,

P.O. Box 1450, Alexandria, VA, on May 24, 2005.

Elena M. Cuthbertson  
Elena M. Cuthbertson

**PATENT APPLICATION  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

IN THE APPLICATION OF  
SATORU OBARA, ET AL.

DOCKET NO.: TOYO-1

SERIAL NO.: 10/521,689

EXAMINER: UNKNOWN

FILED: JANUARY 18, 2005

ART UNIT: UNKNOWN

TITLE: METHOD FOR PRODUCING A DENDRIMER, BUILDING BLOCK  
COMPOUND, AND METHOD FOR PRODUCING A THIOPHENE COMPOUND

WILMINGTON, DE  
DATE: MAY 24, 2005

**INFORMATION DISCLOSURE STATEMENT**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In compliance with the applicants' duty of disclosure under 37 CFR 1.56, and the requirements of 37 CFR 1.97 and 1.98, and to aid in the search and examination of the above identified application, the applicants note and enclose a copy of each of the following references and the English translations of the abstracts:

Wang, et al.

U.S. Patent No. 6,025,462

Susumu, T., et al,

JP Patent No. 3074277

Toshihide, Y., et al, Japanese Application Laid-open No. 10-310561

Manabu, K., Japanese Application Laid-open No. 2002-20740

Hideji, D., et al. Japanese Application Laid-open No. 2001-247861

Grayson, S.M., et al, *Convergent Dendrons and Dendrimers; From Synthesis to Applications*, Chem. Rev. 101, pp. 3819-3867 (2001).

Malenfant, P., et al., *Well-Defined Triblock Hybrid Dendrimers Based on Lengthy Oligothiophene Cores and Poly(benzyl ether) Dendrons*, J. Am Chem. Soc., 120, pp. 10990-10991 (1998).

Applicant: Satoru Obara, et al.  
Serial No.: 10/521,689  
Filing Date: January 18, 2005

Groenendaal, L., et al, *Surface Functionalization of Polyether Dendrimers Using Palladium-Catalyzed Cross-Coupling Reactions*, J. Org. Chem., 63, pp. 5675-5679 (1998).

Xla, C., et al, *A First Synthesis of Thiophene Dendrimers*, Organic Letters, Vol. 4, No. 12, pp. 2067-2070 (2002).

Shirota, Y, et al., *Starburst Molecules for Amorphous Molecular Materials*, Chemistry Letters, pp 1145-1148 (1989).

Miyaura, N., et al, *Palladium-Catalyzed Cross-Coupling Reactions of Aryl and Vinylic Boron Compounds with Organic Halides*. Yuki Gose Kagaku Kyokai Shi (Journal of Synthetic Organic Chemistry, Japan), 46, p 848 (1988).

Miyaura, N., et al, *Palladium-Catalyzed Cross-Coupling Reactions of Organoboron Compounds*, Chem. Rev., 95, 2457-2483 (1995).

Suzuki, A., *Recent Advances in the Cross-Coupling Reactions of Organoboron Derivatives with Organic Electrophiles*. Journal of Organometallic Chemistry, 576, pp 147-168 (1999).

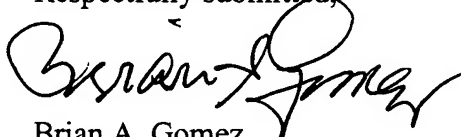
Kakimoto, M., Chemistry Vol. 50, p. 608 (1995).

Kakimoto, M., *Dendritic Macromolecules*, Kobunshi (High Polymers, Japan) Vol. 47, p. 804 (1998).

International Search Report Application No. PCT/JP03/08900

A copy of the PTO form 1449 is also enclosed.

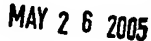
Respectfully submitted,



Brian A. Gomez  
Attorney for Applicants  
Registration No. 44,718  
Telephone: 302-426-0610

Enclosures

L:\clients\Kurihara\Toyo-1\documents\IDS.doc



Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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Substitute for form 1449/PTO

*(Use as many sheets as necessary)*

Sheet	1
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of 2

**Complete if Known**

Application Number	10/521.689
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Filing Date	January 18, 2005
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First Named Inventor	Satoru Obara
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Art Unit

Examiner Name

Attorney Docket Number	Toyo-1
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## U. S. PATENT DOCUMENTS

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> ~ Number <sup>4</sup> ~ Kind Code <sup>5</sup> (if known)				
		JP 3074277	03-04-1997			
		JP 10-310561	11-24-1998			
		JP 2002-20740	01-23-2002			
		JP 2001-247861	09-14-2001			

**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	10/521,689
		Filing Date	January 18, 2005
		First Named Inventor	Satoru Obara
		Art Unit	
		Examiner Name	
Sheet 2	of 2	Attorney Docket Number	Toyo-1

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		GRAYSON, S.M., et al, Convergent Dendrons and Dendrimers, From Synthesis to Applications, Chem. Rev. 101, pp. 3819-3867 (2001).	
		MALENFANT, P., et al., Well-Defined Triblock Hybrid Dendrimers Based on Lengthy Oligothiophene Cores and Poly(benzyl ether) Dendrons, J. Am Chem. Soc., 120, 10990-10991 (1998)	
		GROENENDAAL, L., et al, Surface Functionalization of Polyether Dendrimers Using Palladium-Catalyzed Cross-Coupling Reactions, J. Org. Chem., 63, pp. 5675-5679 (1998).	
		XIA, C., et al, A First Synthesis of Thiophene Dendrimers, Organic Letters, Vol. 4, No. 12, pp. 2067-2070 (2002).	
		SHIROTA, Y, et al., Starburst Molecules for Amorphous Molecular Materials, Chemistry Letters, pp 1145-1148 (1989).	
		MIYAURA, N., et al, Palladium-Catalyzed Cross-Coupling Reactions of Aryl and Vinylic Boron Compounds with Organic Halides, (J. of Synthetic Organic Chemistry, 46,p.848 (1988)	
		MIYAURA, N., et al, Palladium-Catalyzed Cross-Coupling Reactions of Organoboron Compounds, Chem. Rev., 95, 2457-2483 (1995).	
		SUZUKI, A., Recent Advances in the Cross-Coupling Reactions of Organoboron Derivatives with Organic Electrophiles. Journal of Organometallic Chemistry, 576, pp 147-168 (1999).	
		KAKIMOTO, M., Chemistry Vol. 50, p. 608 (1995).	
		KAKIMOTO, M., Dendritic Macromolecules, Kobunshi (High Polymers, Japan) Vol. 47, p. 804 (1998).	

Examiner Signature		Date Considered	
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1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

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